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# Africa's Structural Transformation Challenge and the Role of Agriculture: Is China a Player?

## A Review of Chinese Initiatives in Rural Africa

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*The objective of this paper is to discuss Africa's structural transformation, its food and employment challenges, in light of renewed dynamics, more particularly China's involvement in the continent's agricultural sector. Data is scarce and often very contradictory, but what becomes evident is that China's role in agriculture in Africa, and particularly related to the land grab phenomenon, is not as significant as initially put to the fore. China promotes an uncertain "aid, business, and trade" model where the "business and trade" components seem to increasingly take the lead and which are often disconnected from the characteristics of the African context. As such, the paper, besides highlighting the lasting importance of the rural sector for food security and poverty alleviation in a context of Africa's limited economic diversification, it suggests possible stronger Chinese contribution to the policy debate through experience sharing and dialogue within Africa and at the global level.*

**Keywords:** Africa, China, structural transformation, agriculture, employment.

This paper positions itself at the crossroads of three major observations related to Africa's structural transformation challenge.

Firstly, over the last years African economies have been praised for their robust growth rates which offer positive perspectives for economic development and private investment and suggest a process of catching-up with the rest of the world. However, the quality of this growth is a growing issue because it has a very limited impact on poverty and does not translate so far in a progressive

structural transformation of African economies.

Secondly, the role of agriculture with regards the continent's structural transformation is to be considered. For many countries with an important rural population and where agriculture continues to count in major aggregates and livelihoods, rural and agricultural transformation is of course central to this agenda. More globally, it is also viewed as a necessary step to answer the food security challenge of a 9-plus billion people world expected in 2050 and to

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address the remaining rural poverty. In 2008, the food price crisis led to a renewed interest in agriculture: a multiplication of investment projects and increased foreign direct investments (FDI) into agriculture on the African continent has been observed (UNCTAD 2009). Yet, there is a great need to take stock of the real outcomes for and intentions of all those involved.

Thirdly, beyond economic development and agricultural production, employment is also a burning issue on the African continent. Due to a booming labor force, the question of the sectors of absorption of growing cohorts of youth challenges public policies. This employment challenge is recognized by the international community, as evidenced by the recent publication of numerous reference documents—such as the World Bank's World Development Report (WDR) (2013) focusing on employment (World Bank 2012)—and many of them focus on the very specific situation of Africa, and more precisely Sub-Saharan Africa (SSA), like the African Economic Outlook 2012 (AfdB, OECD and UNDP 2012) or the special report on African youth employment (Filmer and Fox 2014).<sup>1</sup>

The objective of this paper is to discuss these observations in the context of Africa's structural transformation.

The paper recapitulates first the specifics of African structural transformation (Section 1), its consequences on the employment challenge, and points to the remaining and long-lasting importance of the rural sector. It particularly highlights the challenge of agricultural development which is the frontline for food security of a growing population and a major opportunity for generating incomes and contributing to poverty alleviation (Section 2). The paper then puts in perspective the present interventions and dynamics in agriculture and impacts on the rural sector. To do so, it reviews Chinese interventions, investments, and public aid (Section 3). Finally, in the framework of Africa's structural transformation, the paper addresses the evolving role of Chinese cooperation in the rural sector—between increasing implications in the policy dialogue or withdrawal toward a business-only perspective—and stresses its uncertainties and limitations (Section 4).

## **I - Characteristics of the African “structural equation”**

SSA is very specific because its structural transformation has been lagging when compared to other regions of the world.<sup>2</sup> It has experienced

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<sup>1</sup> See also the ILO report on employment trends for youth (ILO 2012), the report of the Africa Commission on the potential of African youth (Africa Commission 2009), the work of the FAO on the employment of rural youth (Van der Geest 2010), Losch (2012; 2013), and Brooks et al. (2013).

<sup>2</sup> The process of structural transformation refers to the change in the sectorial and spatial distribution of economic activities. Its stylized summary shows a gradual transition from an agriculture-based economy to one based on industry and then on services, and hence from rural to urban areas. It is illustrated by the evolution pathway followed by European economies (and countries of European settlement) and replicated in several other parts of the world.

rapid changes characterized by a huge process of urbanization over the last 50 years and a rapid economic growth in the last decade; but it remains, with South Asia, the poorest region in the world.<sup>3</sup> The "African lions" of McKinsey (2010) are lightened by 35% of their GDP when North Africa is subtracted; and SSA only represents 45% of the total wealth of the continent when South Africa (20% of the overall GDP) is withdrawn. It however gathers together 75% of its population.

### *An incipient economic transition*

When looking at the major economic aggregates, SSA structurally changed little since the 1960s and remains permanently marked by the weight of its primary sector and the exploitation of its natural resources. Agriculture, mining, and energy account for over 50% of GDP for 17 countries, between 40% and 50% for 9 countries and between 30% and 40% for 9 others. The manufacturing sector is extremely limited: only 18 countries have an industrial added value exceeding 10% of GDP and 7 countries reach the threshold of 15%. These results show a deep structural inertia, where only services and construction—driven by urban growth—developed. SSA is a region of urbanization without industrialization, a very specific situation in the economic history of the world.

When compared with East and

South-East Asian competitors, African growth over the last decade was much lower, and especially marked by its volatility (Arbache and Page 2007), which raises the question of the sustainability of the recent growth trend (Devarajan and Fengler 2013), characterized by the position of raw materials, construction and services, and the relative weakness of investment (Ali and Dadush 2010).

However, when looking at reallocation of labor within or between sectors, even if reliable data are missing, some countries show a progressive shift (McMillan, Rodrik and Verduzco-Gallo 2014) due to the development of more diversified exports with higher value and technological contents (Uganda, Tanzania, Rwanda, but also Senegal or Nigeria). Nevertheless, these slight changes in the labor force structure of SSA do not modify—in absolute terms—the remaining importance of agriculture in the economically active population. With the exception of South Africa, where employment in agriculture is marginal—for reasons related to the very specific history of the country—agriculture still occupies 50%–60% of the labor force in the vast majority of SSA. This rate rises to 75% and higher in some countries (Sahel, East Africa).<sup>4</sup> Other sectors of employment are mainly services (trade and transport first and, marginally, government, banking), construction and public works boosted

<sup>3</sup> The current GDP per capita is very low: in 2010, 27 of the 49 countries in SSA were in the low-income countries group by the World Bank (< to \$1,025/person/year) including 13 countries under \$500.

<sup>4</sup> The broad definition of agricultural employment does not signify however exclusive occupation in agriculture: multiple activities are a characteristic of rural households (Losch, Fréguin-Gresh and White 2012).

by urban growth, and handicraft. Employment in manufacturing remains extremely low—a few hundred thousand jobs in most countries (and often less).

A cross-sectional feature of this employment structure is the importance of what is commonly called the informal economy. This informal sector is the bulk of Sub-Saharan African economies because it includes agriculture, which is almost exclusively family farming,<sup>5</sup> and also because urban employment happens mainly through self-employment activities or small businesses.

#### *An on-going and delayed demographic transition*

These low-transforming African economies are facing a unique demographic reality characterized by an unprecedented growth and the long-lasting importance of their rural population. SSA is the last region of the world to be engaged in its process of demographic transition and the process is far from complete: in 2050, SSA's population should reach a total slightly above 2 billion people, and population should continue to grow until after 2100. SSA will overtake China and have two and a half times more people than Europe (a reversal of the relative weights of Europe and Africa in less than a century).

This population growth will also be accompanied by a change in the age structure of the population, with a

strong growth of the labor force—and therefore of the demand for jobs—and a progressive improvement of the activity ratio (active/inactive people). However, this improvement in the activity structure of the population will only play its leverage role if it is combined with adequate public policies and a favorable economic and institutional environment (productive investment, capacity building, innovation, and productivity enhancement). If not, the demographic bonus (many workers) could turn into a "penalty" (many jobless) with major social and political tensions.

The other critical feature characterizing African demographic changes is the spatial distribution of the population. In spite of a strong urbanization process (the urban population increased 10-fold since independence), the subcontinent is still mainly rural, with around 65% in 2010, and it will remain rural until the mid-2030s due to a slowing down in the pace of urbanization—a consequence of limited labor opportunities but low paid informal jobs (Magrin 2013). Above all, SSA is the only region of the world—with South Asia—where rural population will continue to grow—a consequence of today's spatial distribution and strong birth rates—and it is the only region where this growth will continue after 2050: the region will count 400 million additional rural people by that date.

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<sup>5</sup> There is a limited business/corporate sector, mainly for agricultural export (agro-industrial plantations, large mechanized farms). It represents little in terms of jobs and even less in relative terms: in countries where it is best established (in East and Southern Africa in particular), the numbers rarely exceed 100,000 jobs compared to the millions of family farms.

### *The “African Equation”*

SSA is facing a continuing population growth and a massive change in scale: while its population increased by 560 million people between 1970 and 2010, it will increase by 1.1 billion over the same time period between 2010 and 2050 (and possibly more). This means a dramatic increase of the food demand and questions the capacity of the continent to meet the scale in terms of agri-food production.

However, food security being more than availability, but also access, utilization (nutrition) and stability (of availability, access, and utilization), the issue of developing income generating activities is central in framing adequate development strategies. It particularly puts the “job challenge” (Bhorat and Naidoo 2013) on the frontline: at SSA’s level, the yearly cohort of new workers entering the labor market,<sup>7</sup> is around 19 million today; it will increase to 27 million by 2030 and add up to nearly 370 million (i.e. 50 million more than the current population of the United States). These are not projections: on a 15-year time period, these new workers have already been born. Based on the existing distribution of population and trends in

migration to cities, two thirds of these new workers should be in rural areas (AfDB, OECD and UNDP 2015).

## **II - The potential and strategic role of agriculture**

**T**he debate on the most appropriate development strategy for SSA is raging, with extremely contrasting points of view between proponents of industrialization and the strengthening of urban dynamics on the one hand, and proponents of “agriculture first” on the other hand (Losch 2015). As far as the “industrialists” are concerned, only manufacturing can meet the scale of the challenges facing Africa: agricultural productivity is too low and the expected progresses too slow to allow for a rapid escape from poverty; the solution for the future of the rural poor lies in the cities.<sup>7</sup>

But it is also important to take into account the necessary timeframe for an effective industrial development with regard to the current structural situation. There has not been significant industrialization in SSA over the last 50 years despite significant urbanization. Examples of industrial free trade zones have produced mixed results and, most importantly, they have only helped

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<sup>6</sup> The annual cohort of youth entering the working age (15–64)—which is a proxy for entering the labor market—or reaching the age of finding an income-generating activity, is one tenth of the 15–24-year age group. This is a flow instead of a change in the total number of workers, which takes into account people moving from the 15–64-age group to the supposedly inactive 65+ group (a disputable criteria in countries without a formal labor market and generalized pension system—the case of SSA).

<sup>7</sup> The major arguments for manufacturing refer to the change in the international economic environment that would offer new opportunities for industrialization: an improved business climate in many countries, the gradual increase in manufacturing costs in Asia due to higher wages (especially in China), and the prospects offered by task-based production—or light manufacturing (Dinh et al. 2012)—rather than the manufacture of end products (UNIDO 2008).



create—depending on the country—tens of thousands of jobs whereas hundreds of thousands of jobs or millions are required annually. It means that the possible new comparative cost advantages—which will arise very progressively—are not enough: heavy investments are needed in infrastructure, training, and support to businesses; and it will be impossible to create millions of industrial jobs each year in the near future to meet the demand for jobs.<sup>8</sup>

This situation consolidates the remaining role of agriculture and the rural sector in the development of the continent. In Africa, over the last five decades, food production has essentially kept pace with population and urban growth thanks to the expansion of cultivated areas, but also to higher yields. However, the gradual decline in food production per capita,<sup>9</sup> which is offset by imports, raises the question of the capacity to respond to population increase while the cultivated area per worker is getting smaller due to a growing rural population (Dorin 2013). Growing imports have firstly answered the urban demand. Nevertheless, if African cities are heavily dependent on international markets, their dependence is mainly a concern for the supply of cereals. Surveys in West Africa capital cities in 2008 have demonstrated that food expenditure is roughly divided into three equal categories: cereals and starchy foods (roots, tubers, and plantains); animal products (meat, fish, dairy, and eggs); and

products for sauce (vegetables, pulses, oils, fruits, sugar, and condiments). For the latter two categories and also for starchy foods, local products are predominant (Bricas 2013).

Based on these results and going back to the demographic prospects, the characteristics of the African population growth will give huge opportunities for the agriculture of the continent, for African farmers, and African food chains. Between 2015 and 2050, the continent will gain 1.2 billion new consumers and the progressive urbanization—even if relatively slower than in other regions of the world—will change the urban/rural population ratio (U/R) which is a proxy for the market potential for African farmers. While U/R is 0.6 today, the ratio will double and reach 1.2 in 2050: this is a dramatic pull factor for agriculture and a huge incentive for developing farming activities and agro-processing.

These existing trends raise however the strategic question of identifying the most appropriate development model for agriculture in Africa. New investments by new players promoting large-scale farming (Anseeuw et al. 2012) have reopened the old “small versus large scale” debate about the relative merits of different sizes and types of farms. This risky discussion—which could result in adopting inappropriate modernization pathways—tends to obscure a central issue: the need to increase production, while creating employment in agriculture,

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<sup>8</sup> In the case of China, the “township and villages enterprises” policy, which was the backbone of rural industrialization, is an interesting yardstick: between the 1960s, when the policy was initiated, and the 1990s a maximum of 135 million jobs were created (Vendryes 2012).

<sup>9</sup> Plant-based food production per capita declined by almost 0.1% per year between 1970 and 2007.

as well as in upstream and downstream activities, by strengthening value chains and improving the incomes of farmers—which are the levers of rural demand and economic diversification (Losch, Fréguin-Gresh and White 2012). This need gives a priority for public policies: support first family farming and help farmers to deal with the existing risky environment (natural, economic, and institutional) through adequate infrastructure and services, improved markets (information and regulation when needed), and “smooth” subsidies (for accessing credit, insurance, and inputs). Drafting the adequate policies will be more than providing technical solutions.

### III - China in rural Africa: myths and realities

**I**n that specific context, what has been and what is the contribution of China, which is one of the most visible and scrutinized foreign player, to the development of agriculture and the rural sector?

Data is scarce and often very contradictory, but what becomes more evident is that China’s role in agriculture in Africa, and particularly related to the land grab phenomenon, is not as

significant as initially put to the fore. As shown by the Land Matrix (2014), China would be ranked 6th if number of deals are concerned and only ranked about 15th if the area is considered (see Figure 1), making it not one of the major players and investors, without an offensive strategy, in agriculture and land on the continent (Anseeuw et al. 2012; Gabas 2014).

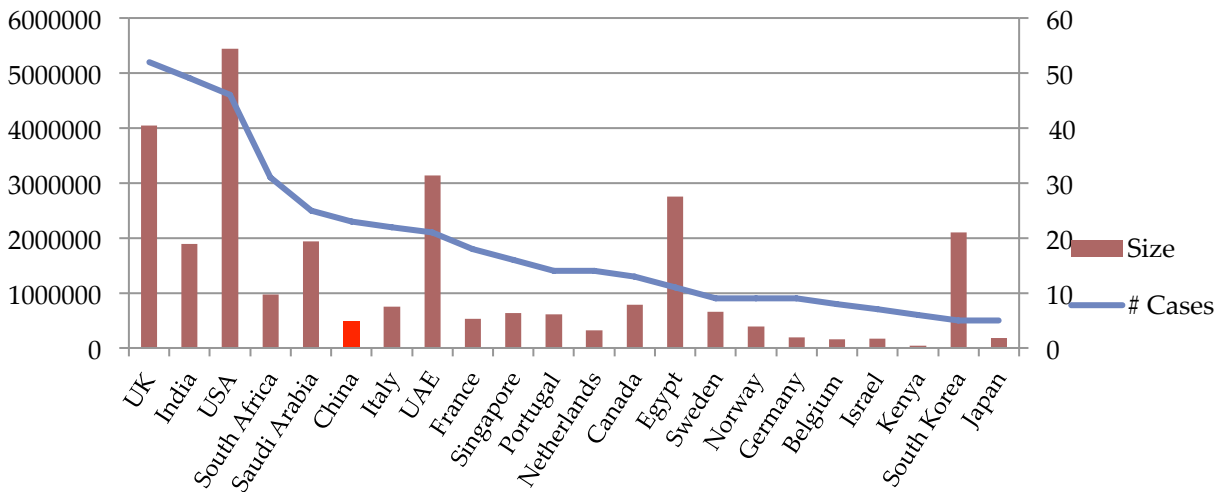
This first observation is confirmed by China’s foreign aid as detailed in its White Papers of 2011 and 2014 (PRC 2011; 2014). The amount of foreign aid allocated to agriculture remained and is at present relatively low. Indeed, according to the White Paper of 2011, agriculture represented only 4.3%—i.e., \$52.6 million for all developing countries—of the cumulated Chinese concessional loans until 2009 (PRC 2011). Although no disaggregated agricultural information is available for Africa, aid for the sector globally would account for about 2% between 2012 and 2014 (see Figures 2 and 3).<sup>10</sup>

This being said, the multiple projects and actors, either public or private, implicated in China or on the ground in Africa, show that agriculture is certainly not being ignored by China. This is illustrated by the numerous projects mentioned in China’s White Papers (PRC 2011; 2014).<sup>11</sup>

<sup>10</sup> There is no disaggregated data for agriculture in Africa, knowing that China’s foreign aid to Africa accounted for 46% of China’s total aid in 2009 (See China’s White Paper 2011 (PRC 2011)) and even 52% (\$7.7 billion) during the period 2010–2012 (See China’s White Paper 2014 (PRC, 2014)).

<sup>11</sup> According to the two White Papers (PRC 2011; 2014), agriculture has always been a target of Chinese cooperation. Until 2009, China implemented 221 projects focused on agriculture in developing countries: 35 farms, 47 centers of experimentation and development of agricultural technology, 11 livestock projects, 15 fishery projects, 47 irrigation projects, and 66 other unspecified agricultural projects—as well as supply of farm equipment. Between 2010 and 2012, China developed 49 new projects in agriculture: 25 agricultural demonstration centers, 21 irrigation projects, and 2 projects based on the transformation of agricultural products (Gabas and Ribier 2015a; 2015b).

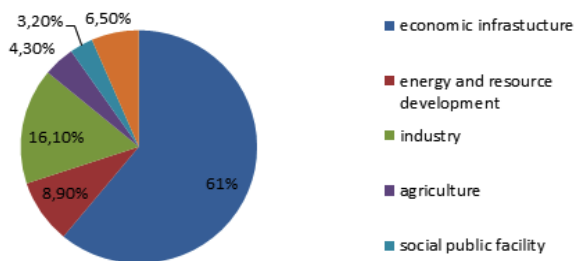




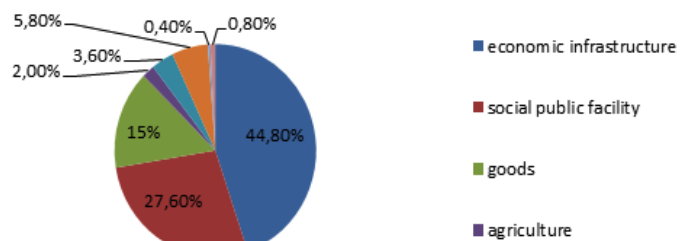
Source: Land Matrix (2014)

Figure 1: Countries of origin and large-scale land-based investments, according to size and number of deals

**Distribution of China's concessional loans by sector (until the end of 2009)**



**Distribution of China's foreign aid by sector 2010-2012**



Sources: China's White Papers (PRC 2011; 2014)

Figure 2 and 3: Breakdown of China's foreign aid by sectors

Three models of cooperation can be identified.<sup>12</sup> The first one, representing the major cooperation model adopted by China, is related to China's agricultural demonstration centers, through which they tend to present a combination of "aid, business, and trade." As such, the model articulates itself around the Ministry of Commerce (MOFCOM—who is providing financial aid), Chinese provincial companies implementing the demonstration centers, and international trade with China which is developing with imports of (hybrid) seed, phytosanitary inputs, fertilizers, agricultural machinery—as well as, in certain cases, the export of agricultural produce. These centers are relatively young: they were decided during the 2006 Forum on China-Africa Cooperation (FOCAC) and financed at different paces. For the 25 centers planned, most constructions are engaged (offices, labs, post-harvest facilities, lecture rooms, etc.), additional rural development operations (irrigation systems, roads, etc.) have been initiated, and 10 centers are already effectively functioning (see annex). In these centers, experts often coming from the very same province per host country/center (for example Hubei in Mozambique) have been deployed, although effective capacity building and

dissemination is still often lacking.<sup>13</sup> After the establishment (financed by MOFCOM), first experimentations and then capacity and dissemination phases (co-financed by MOFCOM and the host country research/capacity building bodies), subsequent phases focus on rendering the centers financially auto-sufficient and autonomous and, finally, on the transfer to host authorities. As such, these demonstration centers characterize an effective but fragile cooperation tool because without Chinese Government support their financial sustainability is not guaranteed.<sup>14</sup> This cooperation model is also unclear. For example, in the case of Cameroon, capacity transfer activities are articulated with an investment company — *Shanxi Overseas* — in which the primary mandate is profit generation but is also supposed to finance activities related to China's cooperation.

A second model is piloted by public/private enterprises<sup>15</sup> in charge of developing agricultural projects, such as *Sinochem* in Cameroon producing natural rubber, or *Sinto* in Togo producing sugar. Although not massive as it is in infrastructures, this project-based cooperation in agriculture is growing and is rapidly diversifying. Indeed, the interventions are presently focusing on an increasing number of agricultural

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<sup>12</sup> This analysis is based on a joint AFD-Cirad research project focusing on Western and Southern Africa which resulted in the development of a database of 250 public and private projects in agriculture financed by Chinese funds (Gabas and Ribier 2015a; 2015b).

<sup>13</sup> Number of experts is around 10 by center. In Mozambique, the "oldest" center, training and extension already started (with 10 staff), while operations will only start in 2015 in Cameroon (15 experts are expected).

<sup>14</sup> Principles, development, funding, and replicability lack of evaluation.

<sup>15</sup> The distinction between the public or private character of these enterprises is difficult.

sub-sectors responding to various market demands, whether they are Chinese (in particular for cotton, groundnut, cassava, wine), international (rubber), or local/regional in Africa (sugar, horticulture, rice, poultry, pork, fisheries). In the two cases mentioned here above, both local economic development and the financing of local public goods are fully supported by the Chinese enterprises. Local employment is significant and Chinese foremen or managers have been replaced with local ones.<sup>16</sup>

These two main cooperation models are finally accompanied by a wave of smaller, private, entrepreneurial investments, particularly in poultry and pork production, the stock taking of which is obviously more difficult. These entrepreneurs also employ local labor, but the quantification of these dynamics and their impact on employment is still rather unknown.

Chinese engagement in agriculture in Africa is thus not as clear cut as often projected. Not only does it remain rather small, it varies significantly according to actors, sectors, and activities. This is all the more true as China seems still unsure which cooperation model to engage in, leading the latter to vary rapidly. Indeed, firstly, although Chinese companies establish themselves to stay, several enterprises, judging risks and/or losses to be significant, have lately decided to relocate their activities toward other countries, in Africa or beyond. It is

the case of South Africa, where several Chinese companies recently settled into primary agricultural production (fishery, wine, cereal, fruits projects). Secondly, Chinese companies have adopted strategies allowing them to control production, without engaging in the riskier land-based investments. As such, a large part of Zimbabwe's cotton and tobacco production is produced under contract farming agreements with Chinese companies, linking smallholders and Chinese companies (Mukwereza 2013). Another strategy is centered on the acquisition of equity shares in stable companies and investment endeavors, as seen in some South African cooperatives and enterprises. This new approach allows Chinese companies to develop sector engagement and primary production control through the input and commercialization channels.

#### **IV - The evolving role of China in the rural and food policy debate: from outsider to contributor?**

**T**his review and tentative stock-taking exercise of Chinese interventions in the rural sector provide a mixed picture.

First, agriculture represents only a small part of Chinese cooperation: it concerns a small amount of funds (even if regional breakdowns are not available) spread in many diversified projects, whose leverage power is necessarily limited.

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<sup>16</sup> In Togo, sugar cane company SINTO employs 280 people on a full-time basis, but during harvest this can increase to 1,200. In Cameroon, HEVECAM (whose capital is owned by SINOCHEM) employs about 6,000 workers. SUDCAM, also owned by SINOCHEM, producing natural rubber presently on 4,000 ha but will expand to 32,000 ha by 2025, 96% of the employees are Cameroonian.

Second, China promotes an uncertain “aid, business, and trade” model where the “business and trade” components seem to increasingly take the lead as shown by a growing activity of Chinese companies both on the inputs side (with development of seeds and fertilizers supply) and the product side (with development of purchase networks targeting specific products such as cotton, groundnuts, and cassava for export). In addition, and more and more prominently, Chinese demonstration centers in Africa are playing another role: they represent a source of information aiming at reducing transaction costs for Chinese companies with no experience in Africa to establish themselves on the continent.

Third, Chinese cooperation seems disconnected from the characteristics of the African context and far away from a comprehensive approach of local realities. The demonstration centers provide a good example of the tentative dissemination of a technical package directly inspired by the Green revolution, focusing on techniques and inputs without taking into account imperfect and incomplete factor markets, providing the latter and additional public goods only on limited project basis. China’s relatively blind practice, disconnected from the agrarian situations and the overall structural realities, is an obstacle for broad-based reflections around the host country’s development trajectories, in particular related to labor and labor absorption into agriculture and the definition of an effective development model for the agricultural sector. So far, the few isolated projects are not facilitating a contribution to the debate on structural transformation, food security, rural poverty alleviation, and the development

of a vibrant rural economy.

Lastly, China’s cooperation system seems to be working in isolation without any consultation with other donors or local stakeholders, such as rural producers’ organizations or NGOs. This gap with other players has prevented experience and information sharing, adaptation to local realities, and undermines Chinese aid effectiveness and its contribution to major African challenges. Particularly, this disconnection prevents learning from the Chinese experience and from engaging a dialogue about how China did manage its rural transformation and reach its food security.

In a context where donors are progressively re-engaging in support to policymaking processes, following a growing focus of African institutions on strategies—and a rising concern about implementing a “transformative agenda” (e.g., African Union, AfDB, and ECA)—Chinese cooperation could possibly initiate a progressive implication in support to policies toward rural transformation and food security. This move would be a major shift with regard to a long-lasting positioning favoring non-interference. This possible evolution is demonstrated by the implication of Chinese experts in agriculture policy design as in Benin, Botswana, and Bissau Guinea. A similar development is observed in Mauritania, where experts contributed to the development of a research center dedicated to agricultural policy, or in Senegal where technical assistance is provided to the ministry of agriculture. Lately, at an international level, it has also engaged in a dialogue with other official donors over the last years, mainly multilateral channels. This is particularly

the case with FAO, the World Bank and IFAD, with whom closer cooperation is being established in countries such as Mozambique and Cameroon. Other cooperations are within the BRICS group (with the establishment of an international bank) or through China's implication in DAC/OECD working groups.

Two last points deserve to be mentioned here. The first one concerns the production of knowledge in China on issues related to agricultural development and cooperation in Africa. Numerous Chinese academics are more and more connected with European and American research, in a lesser extent with Africa (the main academic partnership in related fields is developed with Stellenbosch University in South Africa). An increasing porosity can be observed between the two academic worlds, besides others through the exchange of students and the participation in various think-tanks.<sup>17</sup> Academics exchange on cooperation experiences, publish in international journals and, being themselves strongly linked to the Chinese authorities, significant changes with regard to Chinese Cooperation in Africa can be expected. It could particularly benefit from a growing agenda focusing on rural transformation and how the latter can be a major engine for food security. Secondly, during the Addis Ababa conference on financing development (July 2015), the Chinese President announced several initiatives in order to intensify South-South cooperation, in particular with Africa in the field of agriculture.

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<sup>17</sup> See Yun Sun (2015); China's Sustainable Overseas Agricultural Cooperation (CSOAC): An Annotated Bibliography; Latest News: An Academic Network on China's Overseas Agricultural Cooperation, N° 12, June 30, 2015; and the research network "Chinese in Africa-Africans in China".

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## Annex: The 25 agricultural demonstration centers in Africa

Country	Chinese company	Development stage	Size
South Africa	<i>China National Agricultural Development Group</i>	January 2011 delivered	Facility of 3.000 m <sup>2</sup>
Angola	<i>Xinjiang Beixin Group</i>	October 2012 signed agreement	54 ha
Benin	<i>China National Agricultural Development Group</i>	February 2010 building achieved	51.6 ha
Cameroon	<i>Shannxi Agriculture Group (initially Shannxi Overseas Investment)</i>	January 2010 building achieved	100 ha
CAR	<i>China Shanxi International Economic &amp; Technical Cooperation Corp.</i>	December 2012 building started	To be decided
Congo	<i>Chinese Academy of Tropical Agricultural Science</i>	March 2011	To be decided
Côte d'Ivoire	Undefined	February 2012 feasibility study	To be decided
Eritrea	Undefined	feasibility study	To be decided
Ethiopia	<i>Guangxi Bagui Agricultural Technology Ltd.</i>	June 2012 Delivered	52 ha
Equatorial Guinea	<i>Jiangxi Ganliang Industrial Ltd.</i>	No data	No data
Liberia	<i>LongPing High-Tech Group</i>	July 2010 Delivered	Facility of 26.000 m <sup>2</sup>
Madagascar	<i>Hunan Academy of Agricultural Science</i>	No data	No data
Malawi	<i>Qingdao Ruichang Cotton Company</i>	July 2012 building in progress	50 ha
Mali	<i>Jiangsu Redbud Spinning Technology Ltd.</i>	July 2012 building in progress	No data
Mauritania (agricultural center)	<i>Mudanjiang Yanlin Farm Technology Ltd.</i>	November 2012 building started	50 ha
Mauritania (livestock center)	Undefined	feasibility study	To be decided
Mozambique	<i>Hubei Lianfeng Overseas Agricultural Development Ltd.</i>	July 2011 Delivered	52 ha
Uganda	<i>Sichuan Huaqiao Phoenix Group Ltd.</i>	December 2010	Facility of 3.000 m <sup>2</sup>
DRC	<i>Zonergy Company Limited</i>	July 2012 building in progress	60 ha
Rwanda	<i>Fujian Agricultural &amp; Forestry University</i>	August 2011	22.6 ha
Sudan	<i>China Shandong International Economic &amp; Technical Cooperation Group Ltd. Shandong Academy of Agricultural Sciences</i>	June 2011 Delivered	65 ha
Tanzania	<i>Chongqing Zhongyi Seed Co. Ltd.</i>	April 2011 Delivered	62 ha
Togo	<i>Jiangxi Huachang Infrastructure Ltd.</i>	April 2012 Delivered	10 ha
Zambia	<i>Jilin Agricultural University</i>	January 2011 Delivered	120 ha
Zimbabwe	<i>Chinese Academy of Agricultural Mechanization Sciences</i>	April 2012	109 ha